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ABSTRACT

This publication has been developed to assist local boards of education, superintendents, and their staffs in the organization and development of educational specifications. Part 1 presents a conceptual and operating primer on what educational specifications are--the purpose, the process, the personnel, and the product. Part 2 is designed to provide more specific information relative to the organization and content of the educational specifications document. An outline is provided for the specifications that will permit a high degree of flexibility for adaptation to the variations of local situations while, at the same time, providing sufficient guidance for the bewildered educator who "doesn't know where to start." (Author/MLF)

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THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS

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North Carolina Department of Public Instruction

J. L. Pierce, Director
Division of School Planning

EA 007 670

School Planning Guide — Series 3R
NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION
Division of School Planning
September 1975

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PREFACE

Once the decision to construct a new educational facility or to construct a major addition to an existing facility has been made, the first and perhaps most important step in the process of providing a facility that truly enhances the educational program is the development of educational specifications. With the approval of the board of education and with the assistance of his staff and others selected to assist him, the superintendent of schools must assume the responsibility for the organization and supervision of the educational specifications project, as well as serve as liaison between the board of education, the school staff, and the citizens of the community.

This publication, a descendant of *Educational Specifications* which was published in May, 1968, has been prepared as a guide for superintendents, boards of education, and others responsible for developing educational specifications. A preliminary draft of this publication was field tested in several school systems including Harnett County, Greenville City, Asheville City, Fairmont City, Macon County, Gaston County, Mitchell County, Greene County, and Buncombe County. Copies of the preliminary draft have been distributed through professors at Appalachian State University, University of North Carolina at Greensboro, and East Carolina University to graduate classes in educational administration for review and suggestions. Through workshops sponsored by two of the Regional Education Service Centers, input was solicited for modifying or improving the preliminary draft. At the State Superintendent's Conference on Education for Tomorrow held in Winston-Salem, copies were distributed to architects, engineers, and educators for comments and suggestions.

This publication represents the input of all the responses received from these distributions and from the field tests. To those educators, architects, and engineers who offered suggestions we extend our appreciation. In addition, I wish to acknowledge the efforts of Dr. Douglas L. Pearson, Educational Consultant, Division of School Planning, who organized and wrote the publication and Ms. Patricia Mann, Draftsman-Artist who illustrated and managed the production of the publication.

J. L. Pierce, Director
Division of School Planning

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INTRODUCTION

This publication has been developed to assist local boards of education, superintendents, and their staffs in the organization and development of educational specifications. The responsibility for programming a new educational facility that may affect thousands of students and may cost in the millions of dollars is both an exciting and a humbling experience. In many instances this challenge and, at the same time, wonderful opportunity becomes the responsibility of educators who have had little or no experience with the educational specifications process or the product.

This guide was developed because most educators have little knowledge concerning either the purpose, the process, the organization, or the contents of the finished product called "educational specifications". The organization of this publication provides both a conceptual background and a suggested organizational framework for the content of the completed document.

Part I of this publication attempts to present a conceptual and operating primer on what educational specifications are; why they are developed; how they are organized; and who should be involved and how. Basically, Part I answers the questions What? Why? Who? and How?

Part II is designed to provide more specific information relative to the organization and content of the educational specifications document. In the past, the quality and quantity of the specifications content have varied greatly. Size has varied from two pages to several hundred pages; either extreme is ineffective for obvious reasons. The intent of Part II is to provide a skeleton for the specifications that will permit a high degree of flexibility for adaptation to the variations of local situations while, at the same time, providing sufficient guidance for the bewildered educator who "doesn't know where to start."

PART I

Part I contains general information about educational specifications — the purpose, the process, the personnel, and the product. Participating in the development of educational specifications is both a challenge and a privilege that only a few people have the opportunity to experience. It is also a serious responsibility when one considers the many students and teachers who will be affected over the 50-year life expectancy of a school facility.

Whether the facility will have a positive, neutral, or negative effect on the educational process will depend to a large degree upon how effectively the educational specifications committee functions. The information contained in Part I is introductory and explanatory in nature. An attempt has been made to provide answers to the following questions:

- What are educational specifications?
- Why develop educational specifications?
- Who should be involved?
- What are the general responsibilities of those involved?
- How should the educational specifications document be organized?
- How are educational specifications developed?

WHAT ARE EDUCATIONAL SPECIFICATIONS?

DEFINITION

Educational specifications may be defined as a written means of communication between educators and design professionals. Through this medium educators describe the educational program and identify factors which affect learning and teaching, thus providing a data base for the architect to use in creating the building plans and specifications.

CHARACTERISTICS

Some characteristics of educational specifications are:

- They are the responsibility of the educators.
- They should be based on a predetermined educational program.
- They should state the educators' concept of facility and program needs and leave methods of satisfying the needs to the design professionals.
- They should be free of rigid prescriptions.
- They are concise and to the point.
- They are best developed through the involvement of educators and community representatives.

WHY DEVELOP EDUCATIONAL SPECIFICATIONS?

MEANS OF COMMUNICATION

The primary purpose for developing educational specifications is to provide an effective means of communication between the educational agency and the design professions. In addition to written educational specifications, discussions and visits to existing facilities may greatly aid in communication and understanding. Hopefully, open and effective communications will result in a better facility.

MEANS OF SHAPING INDIVIDU
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- Services to students and
- Philosophy and objective
- School organization
- Methods of instruction
- Program of studies
- Furniture and equipment
- Desired environment
- Utilization of space

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MEANS OF SHAPING INDIVIDUAL THOUGHT AND REACHING A CONSENSUS

Another purpose for developing a set of educational specifications is to provide an opportunity for the staff to collect and to analyze pertinent information about many critical factors and to firm up their thinking with regard to:

- Services to students and community
- Philosophy and objectives of the school
- School organization
- Methods of instruction
- Program of studies
- Furniture and equipment
- Desired environment
- Utilization of space

Rarely will a collection of individuals agree regarding all of these variables. The educational specifications process provides a forum for discussion and debate. Through individual and group research, reading, visitation, and free discussion, a consensus should be achieved and communicated to the design professionals.

MEANS OF PUBLIC RELATIONS

Still another purpose for the development of educational specifications is to solicit the active involvement of the community. In the process of developing educational specifications, parents should be actively involved on committees or subcommittees, and citizens representing various community agencies should be contacted for information and opinions. This process provides a valuable medium through which the community may learn of the proposed plans and through which they may contribute to the project. An informed and actively involved community is more likely to be supportive than an uninformed, passive community.

MEANS OF CONTINUOUS AND FINAL EVALUATION

A fourth purpose served by educational specifications is that of evaluation. Written educational specifications provide a tangible statement against which the various stages of the design and construction process may be evaluated. A continuous dialogue should exist between the architect and the educators concerning the compatibility of the educational program and the facility. The document may also serve as a valuable instrument for evaluating the facility one or two years after occupancy. An effort should be made to determine if, in fact, the facility does what the educators said they wanted it to do.

WHO SHOULD BE INVOLVED?

PROFESSIONAL STAFF

If educational specifications are to accurately communicate both the activities that will occur in the proposed facility and the user requirements that are implied by those activities, teachers, principals, and supervisory staff responsible for planning and implementing the program must be represented on the steering committee. The insight and sensitivity to the program that must be housed and hopefully enhanced by the facility can best be provided by those who design and implement the program.

PARENTS

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PARENTS

Since the school is a social institution the program and the facilities should reflect the needs of the community. To represent the community and to communicate to the public regarding the planning process, parents and various community representatives should be involved in making decisions that do not require professional expertise. These individuals can contribute substantially to the process in general ways and are usually quite willing to leave the description of the instructional program and user requirements up to the professional educators.

As is the case in most construction projects, local funds for capital outlay may be needed to finance the project or to supplement other sources of funds. The availability of local funds is directly related to the public support that exists for the project. If a number of parents and other community representatives are positively involved in developing educational specifications and in reviewing the various stages of the design, the necessary public support should be more easily and enthusiastically obtained than had the involvement not occurred.

STUDENTS

The clients of the schools — the students — have traditionally been consulted less in the development of educational specifications than any other group; this is difficult to justify since they are most affected by school facilities. While the involvement of students may be limited in terms of substantive contributions, especially in elementary projects, student representatives help to translate the feelings of the student population concerning desirable and undesirable features of a school facility. Often they can suggest ideas, overlooked by adults, that are very important to students.

Perhaps the most valuable aspect of student involvement, however, is in the degree with which they are able to internalize the facility as belonging partly to them — not just to the board of education nor to the superintendent. As a result of positive representative involvement and the resultant sense of responsibility, students are more likely to adopt a constructive, protec-

tive attitude toward the school rather than a destructive and hostile attitude.

A word of caution is appropriate. It is better not to involve students at all than to invite their participation and then to ignore their contribution or, even worse, to patronize them. Informed and sensitive students are quick to recognize pseudo-involvement and hypocrisy; they are just as quick to react negatively to such an approach.

DESIGN PROFESSIONALS

Due to increasing demands for school construction, rising costs, and changing programs the time-consuming process of developing complete educational specification documents before beginning the design process is becoming difficult to justify. It also appears inappropriate to exclude the design professional from a process which would enable him to develop an intensified sensitivity to the educators, their program, and the physical requirements of that program; this sensitivity is difficult to attain through the medium of the written word alone. The design process begins as the designer mentally transforms ideas and emotions that develop freely from the committee discussions into abstract form and structure; this feeling for the program is rarely transmitted through the written document.

The designer should maintain a low profile during the initial stages of the educational specification procedure, acting only as a consultant and observer. After the first two chapters of the document have been written and approved by the board of education, the designer may begin work on schematic-type sketches. These are subsequently examined by the steering committee and revisions are made in the written material, in the sketches, or in both. Frequently educators have difficulty recognizing unobtrusive problems until an attempt is made to solve the obvious ones; it seems that graphic descriptions often reveal latent problems or alter the original ones completely.

For these reasons, the design professionals should be involved in the development of educational specifications as early in the process as possible. There is really no substitute for the cooperative interaction between intelligent educational planners and talented design professionals.

EDUCATIONAL CONSULTANTS

Educational and design consultants a
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EDUCATIONAL CONSULTANTS

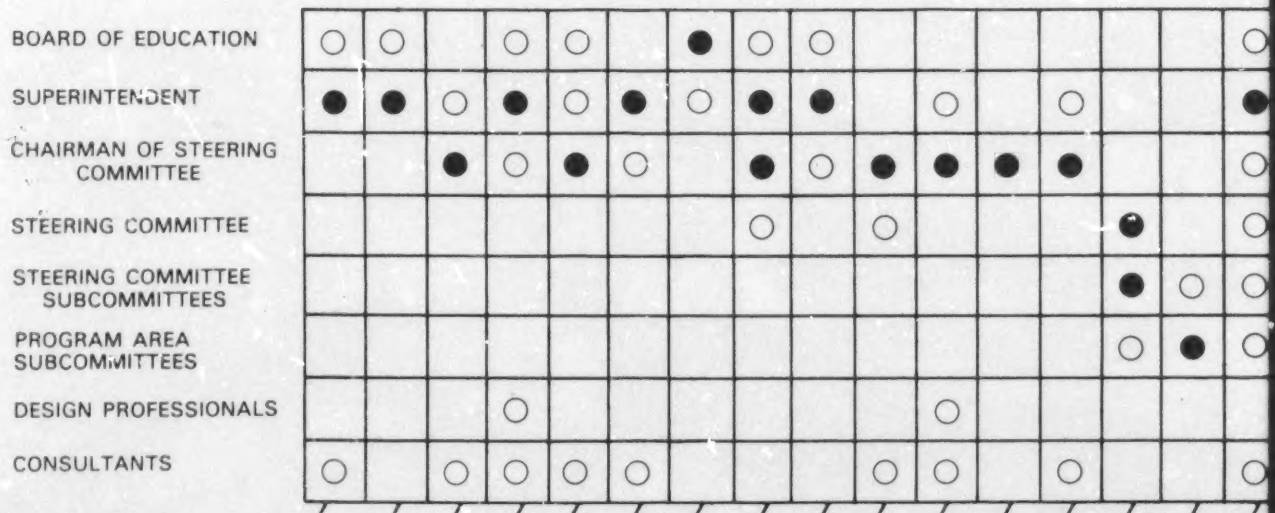
Educational and design consultants available through the North Carolina Department of Public Instruction, from private agencies, or institutions of higher education may be involved as little or as much as the local unit desires. Consultants who are experienced in the educational specifications process are valuable in offering direction and information to the local educational specifications committee; a further advantage to outside consultants is that they provide a service that should be unbiased and objective. Having seen and worked in many schools in and out of North Carolina, design and educational consultants are abreast of innovative, successful programs and facilities and can provide a fresh approach to problems that may be overlooked by local personnel. The staff of the Division of School Planning is available to provide educational and architectural consultants upon the request of the local board of education.

WHAT ARE THE GENERAL RESPONSIBILITIES OF THOSE INVOLVED?

The organization of the educational specification process will, by necessity, differ from situation to situation. Consequently, specific responsibilities and duties also vary. There are, however, a few basic responsibilities that will remain fairly constant throughout the process regardless of the circumstances.

The following chart lists some of these responsibilities and indicates the individual or group who has the primary responsibility for executing each. The chart also indicates the individuals or groups who are normally involved in the execution of each responsibility.

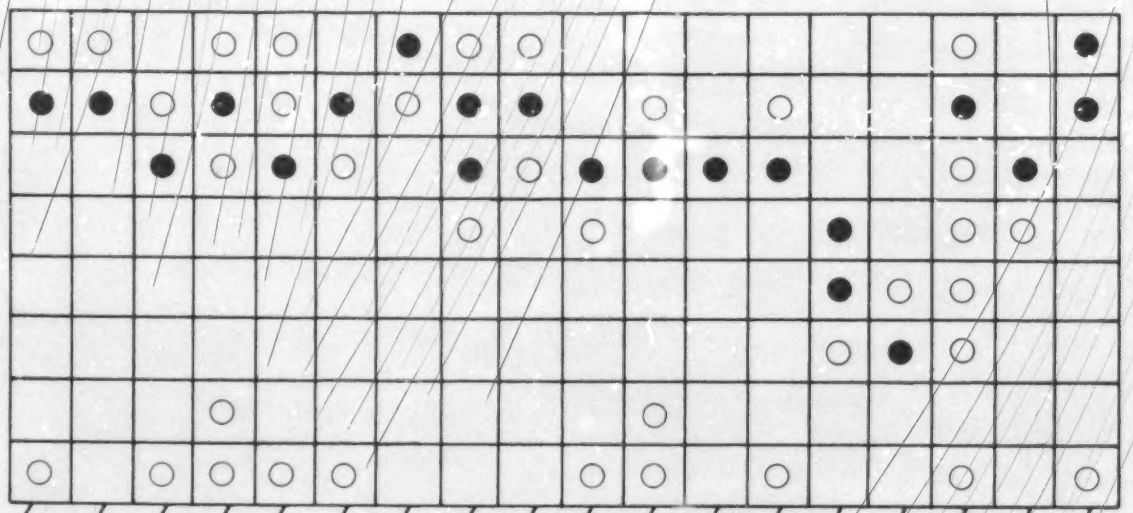
SUMMARY OF RESPONSIBILITIES FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS


BOARD OF EDUCATION
SUPERINTENDENT
CHAIRMAN OF STEERING COMMITTEE
STEERING COMMITTEE
STEERING COMMITTEE SUBCOMMITTEES
PROGRAM AREA SUBCOMMITTEES
DESIGN PROFESSIONALS
CONSULTANTS
Determine the purpose and organizational form of the process
Select a chairman for the steering committee
Select members of the steering committee
Determine time schedule for the project
Determine organization and direction of the project
Determine which people or groups to involve
Select design professionals
Determine the role of consultants
Request consultant services
Develop forms for communications and reports from subcommittees
Provide basic facts and information to all involved
Schedule meetings and preside
Arrange for school visitations
Write preliminary and final drafts of Chapters I and II
Write preliminary and final drafts of Chapters III
Review and approve preliminary and final drafts of Chapter
Collect, edit, summarize, and ass subcommittee reports
Review and approve completed docum

● PRIMARY RESPONSIBILITIES

○ INVOLVEMENT

SUMMARY OF RESPONSIBILITIES FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS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Select members of the steering committee
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Determine the role of consultants
Request consultant services
Develop forms for communications and reports from subcommittees
Provide basic facts and information to all involved
Schedule meetings and preside
Arrange for school visitations
Write preliminary and final drafts of Chapters I and II
Write preliminary and final drafts of Chapters III
Review and approve preliminary and final drafts of Chapter
Collect, edit, summarize, and assemble subcommittee reports
Review and approve final draft of the completed document

SPONSIBILITIES
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HOW SHOULD THE EDUCATIONAL SPECIFICATIONS DOCUMENT BE ORGANIZED?

The Division of School Planning suggests that the educational specifications document contain three general chapters as follows:

Chapter I: Introduction and Background Information
Chapter II: General Design Considerations
Chapter III: Educational Activities and User Requirements

These three areas provide the architect with the essential information that is necessary to develop an awareness of the educational planning process, a sensitivity to the general needs and values of the educators who will use the facility, and a detailed understanding of the educational program that must be contained and enhanced by the building that is to be designed.

The sequence of the three chapters is logical in that they proceed from the general to the specific. In the process of designing a building, architects also proceed from general concepts (schematic drawings) to general floor plans (preliminary drawings) to more specific technical plans (working drawings). For this reason, the proposed organization seems to be both logical and consistent with the architectural procedures.

If the design professionals have been selected by the completion date of Chapters I and II, this information may be approved by the board of education and submitted to the designers to begin developing their architectural program. This procedure will save time in an inflationary era when time is expensive; it will also permit a high degree of designer/educator interaction as the designers attempt to interpret the educators' general, verbal information into generalized, visible form.

HOW ARE EDUCATI SPECIFICATIONS DEV

To suggest that there is only one me educational specifications would be naive. that influence the process vary from si Some of these variables are:

- Time schedule
- Size of the project
- Funds available
- Personalities and competencies leaders
- Organization of the local central o
- Commitment to educational speci
- Willingness to accept change
- Commitment to involvement

Not only do these variables differ from un portance of certain variables may change process begins.

Nevertheless, as a point of departure chart is provided as one way the process m may proceed. The process is recommend School Planning with the realization that necessary and desirable due to local con

HOULD THE EDUCATIONAL FICATIONS DOCUMENT BE ORGANIZED?

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HOW ARE EDUCATIONAL SPECIFICATIONS DEVELOPED?

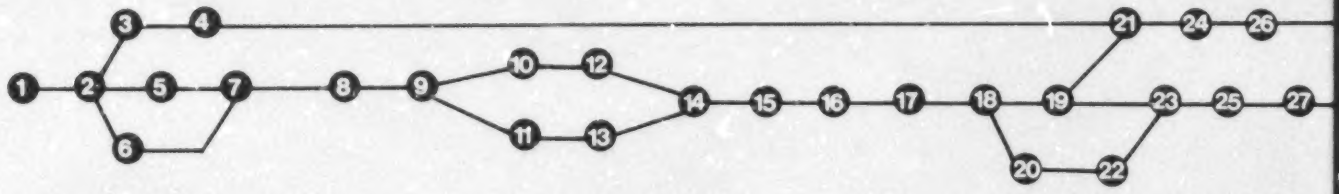
To suggest that there is only one method for developing educational specifications would be naive. The many variables that influence the process vary from situation to situation. Some of these variables are:

- Time schedule
- Size of the project
- Funds available
- Personalities and competencies of the educational leaders
- Organization of the local central office
- Commitment to educational specifications
- Willingness to accept change
- Commitment to involvement

Not only do these variables differ from unit to unit, but the importance of certain variables may change within a unit after the process begins.

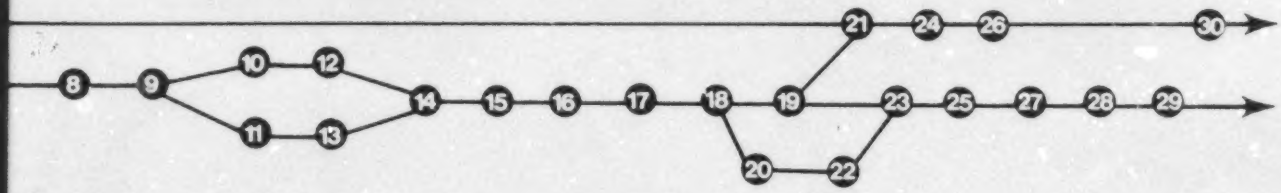
Nevertheless, as a point of departure, the following flow chart is provided as one way the process may be organized and may proceed. The process is recommended by the Division of School Planning with the realization that departures may be necessary and desirable due to local conditions.

SUGGESTED PROCESS FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS



1. Superintendent and board of education decide to begin the educational specifications process.
2. Superintendent appoints steering committee chairman.
3. Board of education interviews architects.
4. Board of education selects architect.
5. Superintendent and chairman appoint steering committee composed of staff, teachers, parents, students, consultants, and architect.
6. Superintendent requests assistance of consultants.
7. Steering committee visits, studies, and discusses individually and collectively.
8. As a group, steering committee discusses items relative to Chapters I and II.
9. Chairman appoints subcommittees to write preliminary draft of Chapters I and II.
10. Introduction subcommittee writes preliminary draft of Chapter I.
11. General design subcommittee writes preliminary draft of Chapter II.
12. Introduction subcommittee distributes preliminary draft of Chapter I to other members of steering committee.
13. General design subcommittee distributes preliminary draft of Chapter II to other members of steering committee.
14. Steering committee discusses Chapters I and II and approves or amends them.
15. Alterations are made if necessary and working drafts of Chapters I and II are prepared.
16. Steering committee approves final draft of Chapters I and II.
17. Steering Committee presents Chapter I and II
18. Board of education approves Chapters I and II
19. Board of education presents Chapters I a
20. Steering committee representatives from the va work with other faculty on detailed educat requirements of Chapter III.
21. Architect begins architectural program and sch
22. Steering committee representatives from th committees complete preliminary draft of Chap
23. Final draft of Educational Activities and User P submitted to steering committee.
24. Architect submits ideas to steering committee fo periodically.
25. Steering committee compiles and presents Chapt
26. Architect submits ideas to Division of School P approval periodically.
27. Board of education approves Chapter III.
28. Steering Committee combines Chapters I, II, Educational Specifications and duplicates.
29. Steering committee presents completed docume and to architect.
30. Architect periodically submits plans to the steer superintendent, board of education, and Divisio review and evaluation.

SUGGESTED PROCESS FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS



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17. Steering Committee presents Chapter I and II to the board for approval.
18. Board of education approves Chapters I and II.
19. Board of education presents Chapters I and II to the architect.
20. Steering committee representatives from the various program areas begin work with other faculty on detailed educational activities and user requirements of Chapter III.
21. Architect begins architectural program and schematics.
22. Steering committee representatives from the various program sub-committees complete preliminary draft of Chapter III.
23. Final draft of Educational Activities and User Requirements (Chapter III) submitted to steering committee.
24. Architect submits ideas to steering committee for discussion and approval periodically.
25. Steering committee compiles and presents Chapter III to board of education.
26. Architect submits ideas to Division of School Planning for discussion and approval periodically.
27. Board of education approves Chapter III.
28. Steering Committee combines Chapters I, II, and III into completed Educational Specifications and duplicates.
29. Steering committee presents completed document to board of education and to architect.
30. Architect periodically submits plans to the steering committee, chairman, superintendent, board of education, and Division of School Planning for review and evaluation.

PA

Part II provides an explanatory discussion of the three chapters that are suggested for the educational specifications document. The information that is suggested for each chapter is not intended to be all inclusive. The type and volume of information will vary from situation to situation. The information is organized in Part II to coincide with the suggested outline for the educational specifications document. The main subdivisions of the outline are:

Chapter I: INTRODUCTION AND BACKGROUND INFORMATION

- The Planning Process
- The School Community
- Developmental Characteristics of Students to be Served
- General Educational Philosophy

Chapter II: GENERAL DESIGN CONSIDERATIONS

- Budget Limitations
- Initial and Long-Range Student Capacity
- General School Organization
- Flexibility Requirements
- Environmental Atmosphere
- Handicapped Students
- Requirements Common to All Instructional Areas
- Faculty Work Space and Offices
- Community Use of the Facility
- Site Development
- Additional Requirements

Chapter III: EDUCATIONAL R

- Discernible Trends
- Educational Philosophy
- Specific Objectives
- Teaching Methodology
- Main Instructional Areas
  - Capacity (students and/ areas
  - Student grouping capat
  - Activities
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  - Media and equipment r
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- Spatial Relationships
  - Within departments
  - Between departments a

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Chapter III: EDUCATIONAL ACTIVITIES AND USER REQUIREMENTS

- Discernible Trends
- Educational Philosophy
- Specific Objectives
- Teaching Methodology
- Main Instructional Areas
  - Capacity (students and/or staff) and number of like areas
  - Student grouping capability of areas
  - Activities
  - Special environmental considerations
  - Media and equipment required
  - Utilities required
  - Storage space required
  - Furniture required
  - Miscellaneous requirements
- Peripheral Areas
- Spatial Relationships
  - Within departments
  - Between departments and special areas

Chapter I
INTRODUCTION AND BACKGROUND INFORMATION

Chapter I of the educational specifications document provides the design professional with general information enabling him to develop a sensitivity for the community, for the students to be housed, and for the educational philosophy that must be reflected in the design solution.

The following items are useful to the designer and may be supplemented with other information that is appropriate for specific projects.

THE PLANNING PROCESS

This brief statement would identify why the document was developed, how it was developed, and who was involved. Ideally the architect will have been involved from the beginning; if this is the case, this information may be very brief or even omitted. However, if the designer was not selected early, the planning process should be described in detail.

THE SCHOOL COMMUNITY

A description of the school community may include information concerning its historical background, cultural background, population trends (by age levels), employment characteristics, socio-economic characteristics, educational needs of the community, climatic conditions, general community progressiveness, cultural and recreational facilities available, and anticipated community use of the facility.

DEVELOPMENTAL CHARACTERISTICS OF STUDENTS TO BE SERVED

A description of the social, emotional, mental, and physical developmental characteristics is useful to the architect in making decisions regarding the size, colors, dimensions, textures, and shapes. Since there is constant interaction between man and his environment and because human relations are so affected by the quality of the environment, environmental factors should be designed to allow the individual to do those things which are appropriate to his development with a minimum of conflict with the envir
individuals.

GENERAL EDUCATIONAL PHILOSOPH

The introductory chapter should inc
philosophy or statement of beliefs abou
perative that this be accomplished early in
color the many decisions which will be m
noted, however, that a "philosophy" is n
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made. For instance, how valuable is
developing self-disciplined and self-dire
organization, the teaching methodology,
are so structured that students are seldo
alternatives and to make choices? In othe
of philosophy should be functional an
decorative and passive.

Chapter II
GENERAL DESIGN CONSI

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BUDGET LIMITATIONS

If the board of education has placed a
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Chapter I
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GENERAL EDUCATIONAL PHILOSOPHY

The introductory chapter should include a system-wide philosophy or statement of beliefs about education; it is imperative that this be accomplished early in the process as it will color the many decisions which will be made later. It must be noted, however, that a "philosophy" is not an end in itself; it must be used to evaluate every decision and every policy that is made. For instance, how valuable is a commitment to developing self-disciplined and self-directed students if the organization, the teaching methodology, and the curriculum are so structured that students are seldom allowed to weigh alternatives and to make choices? In other words, a statement of philosophy should be functional and active rather than decorative and passive.

Chapter II
GENERAL DESIGN CONSIDERATIONS

The second chapter of the educational specifications document is intended to be more specific than the introduction and background chapter while still free of any rigid prescriptions. Basically, this chapter should contain a series of position statements or decisions about the general requirements that must be met in the design of the new facility.

The following information suggests typical items that may be included in this section of the document. The suggested items are by no means all inclusive; there undoubtedly will be additional general requirements that each local steering committee will find appropriate for this section. Neither is it implied that all the items discussed must be included in the treatment of general design considerations.

BUDGET LIMITATIONS

If the board of education has placed a limitation on the cost of the project, this information would appropriately appear in this section of the document.

INITIAL AND LONG-RANGE STUDENT CAPACITY

An estimate of the initial student population to be housed by the new facility as well as a projection of the future capacity is necessary. If the board of education has a policy statement regarding the maximum size of schools, it should be referred to at this point.

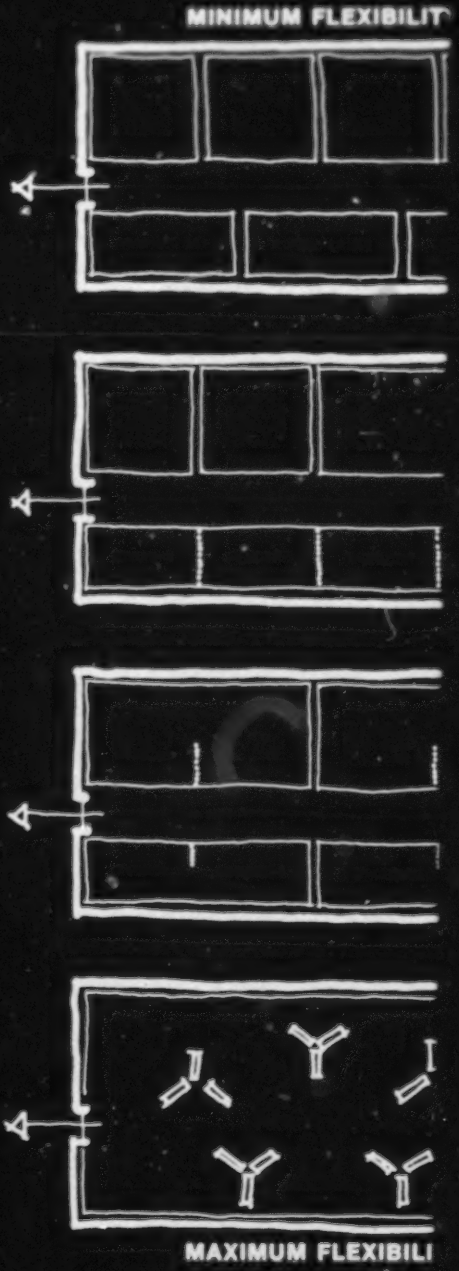
GENERAL SCHOOL ORGANIZATION

This information should provide answers to such questions as:

- How will the students be advanced through the program from year to year (vertical organization)?
- How will the students be organized in groups (horizontal organization)?
- How will the program and staff be organized — by departments, by subject areas, by broader activity areas, or by grade levels?
- Will the organization of one grade or level be substantially different from another? For instance, in a junior high school grade 7 may be largely self-contained; grade 9, largely departmentalized; and grade 8, a combination of both.

FLEXIBILITY REQUIREMENTS

The general requirements of flexibility that must be provided for in the new facility should be described. Does the curriculum and instructional methodology call for weekly or daily flexibility in modifying the instructional spaces? Will the program, on the other hand, require the flexibility to modify the spaces and mechanical support system yearly or less often? If the program provides for students to engage in a variety of learning activities with various sized groups, the architect must be so informed so that the concept can be incorporated into the general design of the facility at the beginning.



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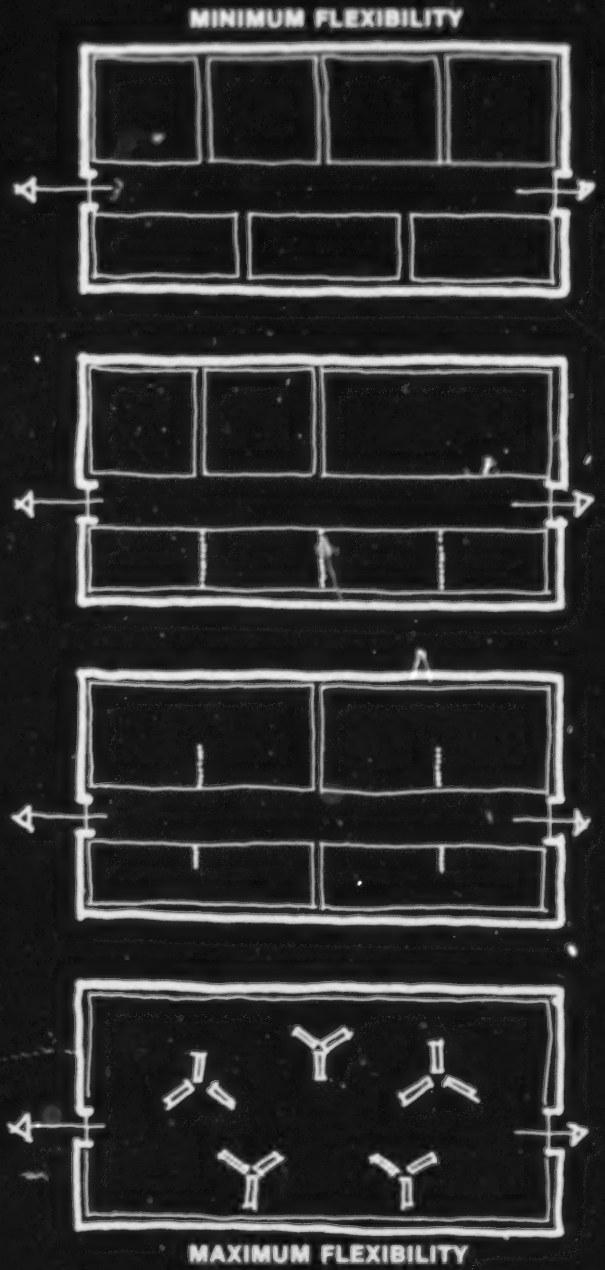

ENVIRONMENTAL ATMOSPHERE

This paragraph might describe the characteristics of the atmosphere that should exist to maximize the teaching/learning interaction and to enhance the growth and development of the total individual. Once the desired atmosphere has been described, the role that the following basic environmental elements play in producing the desired effect should be discussed:

- Acoustical
- Aesthetics: form, color, orderliness and variety
- Olfactory
- Safety
- Sanitation
- Tactile
- Thermal
- Ventilation
- Visual: lighting, textures, shadows, windows

HANDICAPPED STUDENTS

The design professionals must be informed of the total commitment that educators have made for quality education for all students including those who are handicapped. Ramps, elevators, and handrails should be provided for the convenience of students who require them. New buildings must conform to the new building code requirements for handicapped persons; the Department of Insurance should evaluate the schematic drawings to assure full code compliance.

COMMUNITY USE OF THE FACILITY

The degree and nature of communit, uti made of the new facility should be describ entrances and exits, security provisions tha spatial relationship of special service are parking areas, and the design of the mechan port systems are all affected by the evening munity utilization that is anticipated.

REQUIREMENTS COMMON TO ALL INST AREAS

There will be general requirements that ar structional areas. Rather than having these program subcommittee, a statement descri considerations in this chapter of the docu duplicated effort. Typical of such common chalkboards, tackboards, clocks, house ph and ventilation controls, and public addres

FACULTY WORK SPACE AND OFFICES

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COMMUNITY USE OF THE FACILITY

The degree and nature of community utilization that will be made of the new facility should be described. The location of entrances and exits, security provisions that are required, the spatial relationship of special service areas, the location of parking areas, and the design of the mechanical/electrical support systems are all affected by the evening and summer community utilization that is anticipated.

REQUIREMENTS COMMON TO ALL INSTRUCTIONAL AREAS

There will be general requirements that are common in all instructional areas. Rather than having these repeated by each program subcommittee, a statement describing these general considerations in this chapter of the document will prevent duplicated effort. Typical of such common requirements are chalkboards, tackboards, clocks, house phones, storage, light and ventilation controls, and public address speakers.

FACULTY WORK SPACE AND OFFICES

Early in the program planning for the new facility, a decision should be made relative to the location of faculty work areas. Some faculties prefer a large work area that is centrally located and close to the faculty lounge, professional library, and supply storage area. Others prefer smaller, decentralized office and work areas in the department or grade level centers. Still other schools prefer a combination of the centralized and decentralized approaches. Since this affects the overall design of the facility, the decision should be made early and a position statement included in this chapter of the educational specifications document.

SITE DEVELOPMENT

All too often site development is overlooked in the educational planning for a new school. The necessity of play areas, nature trails, outdoor theaters, and outdoor athletic facilities, in addition to a well maintained and attractive natural environment, have important implications for the design of the facility, its orientation to the site, and the total budget for the project. For this reason the designer must be informed of the general site development requirements early in the process.

ADDITIONAL REQUIREMENTS

Other general requirements that may be discussed in the General Design Considerations chapter are listed below:

- Student commons area or areas
- Student lockers
- Student circulation: interior and exterior
- Covered bus loading/unloading area
- Covered walk-ways
- Display cases
- Capacity for closed-circuit and educational television
- Vehicular circulation and parking: faculty, students, visitors, bus, and service vehicles
- Communication systems: house phones, a bell or tone system; a one-way public address system, a master clock, and strategically placed public phones
- Custodial lockers and showers
- Materials receiving areas

Rigid prescriptions are restrictive and tend to stifle the architect's creativity in solving design problems; however, general descriptions of the desirable characteristics of these requirements will be beneficial to the architect.

Chapter III
EDUCATIONAL ACTIVITIES AND USER REQUIREMENTS

The third major chapter of the educational specifications document is the most critical in terms of communicating specific information to the design professionals. If a facility is to be designed that truly enhances the instructional program, the architect must have a thorough understanding of the **activities** and **user requirements** of the program that is to be housed. **The success with which educators are able to describe the activities that will take place in every area of the facility is critical to the effectiveness of educational specifications.**

Architects, not educators, are trained to creatively provide design solutions to fit the activity requirements of a particular educational problem. Past experience has suggested that educators are prone to describe not only the activity but to suggest the solution as well. For example, rather than describing the desired flexibility for modifying the size of instructional spaces to accommodate groups of varying size, educators in the past have attempted to provide a solution to the problem by specifying the use of movable, accordian-type, wooden doors, etcetera. Consequently, the architect is limited when perhaps another solution would have been better and less expensive. Words such as carpet, terrazzo, air-conditioning, desks, venetian blinds, are all examples of solutions to problems. The fewer words of this type found in the educational specifications the more useful the document will be to the design professional.

The main task for the educator is to describe in detail the activities that will take place in the school and to describe the desirable conditions under which they should occur. Educators should also describe the type of media and equipment that will be used as well as the utilities that are needed. The solutions to these needs and conditions should be left to the design professionals.

Chapters I and II may be developed by the whole Steering Committee including staff, parents, students, design professionals, and consultants. Chapter III, however, must be developed by the professional educators working in subcommittees representing their areas of special
mittees for an elementary school and a hig
the various ways these subcommittees ma
provided in the appendix.

This chapter of the educational speci
should be written as concisely as possib
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- Specific Objectives
- Teaching Methodology
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  - Capacity (students and/or staff) a
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- Spatial Relationships
  Within departments
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The following discussion provides some
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l may be developed by the whole Steering ng staff, parents, students, design profes- sultants. Chapter III, however, must be professional educators working in subcommittees representing their areas of specialty. Sample subcommittees for an elementary school and a high school illustrating the various ways these subcommittees may be organized are provided in the appendix.

This chapter of the educational specifications document should be written as concisely as possible by the subcommittees representing grade levels, departments, or program areas, and each of the special service areas. The Division of School Planning suggests that coverage of the program activities and user requirements may be organized to include the following:

- Discernible Trends
- Educational Philosophy
- Specific Objectives
- Teaching Methodology
- Main Instructional Areas
  - Capacity (students and/or staff) and number of like areas
  - Student grouping capability of areas
  - Activities
  - Special environmental considerations
  - Media and equipment required
  - Utilities required
  - Storage space required
  - Furniture required
  - Miscellaneous requirements
- Peripheral Areas
  Above items as appropriate
- Spatial Relationships
  Within departments
  Between departments and special areas

The following discussion provides some amplification of the various items in the suggested outline.

DISCERNIBLE TRENDS

From wide reading, discussions with consultants, visits to other schools, and other sources, the faculty subcommittees should identify the major trends in their respective areas. The

trends and their implications for the curriculum and the facility should be written as thoroughly, but concisely, as possible.

EDUCATIONAL PHILOSOPHY

The specific philosophy of each faculty subcommittee should be presented briefly to serve as a bench mark against which the following information and future design decisions can be evaluated. The philosophy may be composed of a simple list of the basic beliefs or principles. In any event, it should be as direct and concise as possible without sacrificing quality.

SPECIFIC OBJECTIVES

The subcommittees should describe the specific performance objectives that they hope to accomplish in their area. Observable and/or measurable performance objectives are more valuable in evaluating the program and the facility than broad generalities such as "to encourage . . .", "to develop an appreciation for . . .", and "to acquire an understanding of . . .". For assistance in developing specific objectives, refer to the publication, *Handbook for Planning in the Local School System*, developed by the Division of Planning of the North Carolina Department of Public Instruction.

TEACHING METHODOLOGY

Prior to describing the methodology that will be utilized in the new facility, the faculty subcommittees are encouraged to critically evaluate their current methods. Having decided upon the methods that will be employed in the new facility, the subcommittees must accurately describe them to the architect. The space, the electrical/mechanical support systems, and the media required by a teacher who lectures for fifty minutes are quite different from those required when the students are actively involved in student-initiated learning activities in various size groups.

MAIN INSTRUCTIONAL AREAS

The Division of School Planning suggests that the following information should be developed as thoroughly as possible for each of the main instructional and support areas. The data should be organized and presented in a brief a with little editorializing. A clear, succinct state more effective than a long-wordy one.

Capacity (students and/or staff) and number this paragraph each subcommittee should ind of main instructional or service areas (class bases) that they will require. They should a maximum student capacity that they expec areas at any one time; this paragraph should maximum number of staff that will be expecte of these areas.

Student Grouping Capability Of Areas — grouping will vary appreciably from school to the same school. Therefore, each subco describe the amount of group variation that tional areas must accommodate. If a great de activity will occur within an area, there are d that may facilitate the logistics of this metho such techniques are designing flexibility f decreasing the size of spaces by moving defining smaller areas within larger areas b colors, furniture, floor levels, floor coverings, on walls; and treating the areas with special a ties to retard sound transfer.

Activities — As thoroughly as possible, the list or otherwise describe the type of activit place in the main instructional areas. In additi activities, care should be taken to describe activities that may occur in small groups in tional areas since provision for sound abat barriers may be necessary. **The effectiven munication may make the difference betwe enhances the instructional program and o obstructs the program.**

Special Environmental Considerations — vironmental requirements such as spec acoustical, or mechanical requirements municated at this point. Typical of such c

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should be organized and presented in a brief and concise form with little editorializing. A clear, succinct statement is generally more effective than a long-wordy one.

Capacity (students and/or staff) and number of like areas — In this paragraph each subcommittee should indicate the number of main instructional or service areas (classrooms, pods, home bases) that they will require. They should also describe the maximum student capacity that they expect to be in these areas at any one time; this paragraph should also describe the maximum number of staff that will be expected to work in each of these areas.

Student Grouping Capability Of Areas — The amount of grouping will vary appreciably from school to school and within the same school. Therefore, each subcommittee should describe the amount of group variation that the main instructional areas must accommodate. If a great deal of small group activity will occur within an area, there are design techniques that may facilitate the logistics of this methodology. Typical of such techniques are designing flexibility for increasing or decreasing the size of spaces by moving the boundaries; defining smaller areas within larger areas by using different colors, furniture, floor levels, floor coverings, or large graphics on walls; and treating the areas with special acoustical properties to retard sound transfer.

Activities — As thoroughly as possible, the educators should list or otherwise describe the type of activities that will take place in the main instructional areas. In addition to large group activities, care should be taken to describe any simultaneous activities that may occur in small groups in the main instructional areas since provision for sound abatement and visual barriers may be necessary. **The effectiveness of this communication may make the difference between a facility that enhances the instructional program and one that limits or obstructs the program.**

Special Environmental Considerations — Any special environmental requirements such as special illumination, acoustical, or mechanical requirements should be communicated at this point. Typical of such considerations are

"black-out" capability in certain areas, sound treatment in music areas, dust collection capability in shop areas, special ventilation in home arts or chemistry areas, wet areas in elementary instructional spaces, nonspark light switches in paint areas, visual and acoustical privacy in guidance suite, and special lighting in art area.

Media And Equipment Required — Each subcommittee should list or otherwise explain the educational media and/or special equipment that will be required by their particular program. This information is vital in designing the electrical/ mechanical support system for each area. For example, it is much easier and less expensive to design and to wire a facility for in-house, closed circuit television in the beginning than to add it later.

Utilities Required — If there are special utility requirements in addition to those implied by the media and equipment requirements, they should be explained at this point in as much detail as necessary. Hot and cold water in the elementary instructional areas, a shower and washer/dryer in the health area, exterior power receptacles near the outdoor hard-surface play areas, and ample power receptacles in a multi-purpose room are examples of special utility requirements.

Storage Space Required — Special storage requirements (in addition to the normal storage closets, shelves, or lockers) should be described by each subcommittee. Inadequate storage of the proper amount or size is almost always a problem when educators fail to explain precisely what their needs are. It is also helpful to the design professionals to indicate which storage areas are to be open or enclosed, to indicate which ones require security provisions, and also to indicate which storage areas may be used for highly flammable materials.

Furniture Required — A list of furniture to be contained in each instructional area by type and quantity is also helpful to the designer. Brand names should be avoided since they tend to stifle the creativity of the design professional in securing furniture that may be superior to the brand to which you are accustomed. The more thoroughly educators are able to communicate furniture needs, the more likely the facility and the furnishings will complement one another.

Miscellaneous Requirements — There wi
cial needs from department to departme
propriately included at any other place. T
considerations may be described at this
tional specifications.

PERIPHERAL AREAS

Each program subcommittee should de
al areas that are required. Traditionally the
have been called storage rooms, practice
rooms, teacher offices, production and
purpose rooms, equipment rooms, sem
visual rooms, and reception areas.

These areas should be described in a
necessary. The same considerations would
areas as outlined above for the main inst
the sake of continuity, it is suggested
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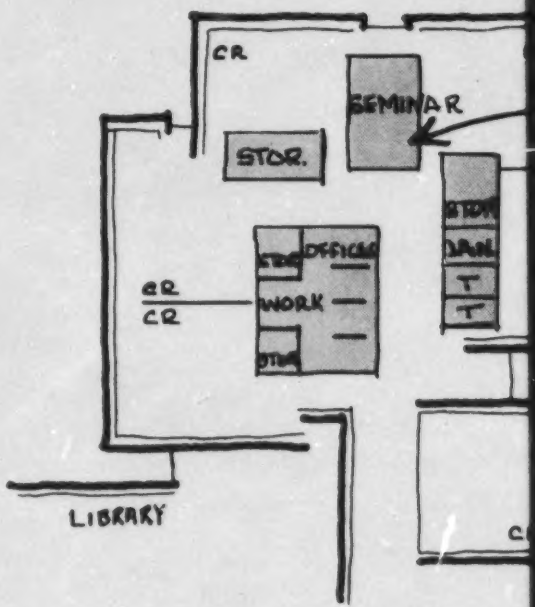
particular area.



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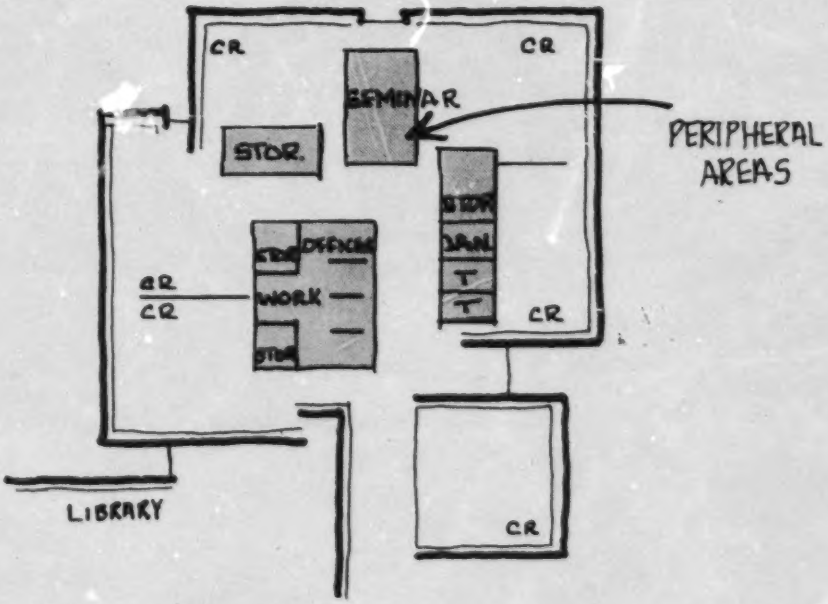
mplement one another.

Miscellaneous Requirements — There will invariably be special needs from department to department that are not appropriately included at any other place. These miscellaneous considerations may be described at this point in the educational specifications.

PERIPHERAL AREAS

Each program subcommittee should describe any peripheral areas that are required. Traditionally these peripheral areas have been called storage rooms, practice rooms, conference rooms, teacher offices, production and work rooms, multipurpose rooms, equipment rooms, seminar rooms, audio-visual rooms, and reception areas.

These areas should be described in as much detail as is necessary. The same considerations would apply to peripheral areas as outlined above for the main instructional areas. For the sake of continuity, it is suggested that the outline be adhered to as closely as possible whenever it is applicable to a particular area.



SPATIAL RELATIONSHIPS

If it is important that the main instructional areas of a subcommittee be adjacent to or near those of another area or near a special service support area, these requirements should be described in this paragraph. It is also important for the design professional to know if there are areas that should be separated for various reasons. Any relationship, positive or negative, should be described.

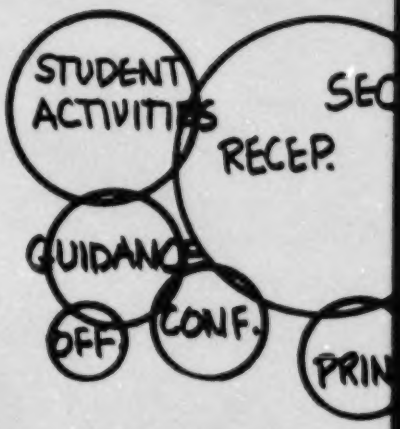
The designer must also be informed of the desired relationship between the main instructional areas and their peripheral areas within a program area.

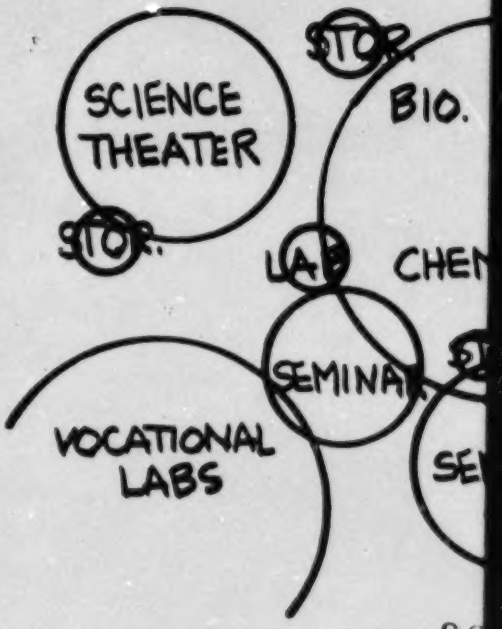
The relationship of the various spaces **within** a program area, as well as the relationship **between** program areas and the special service support areas, may be summarized verbally or graphically. The Division of School Planning suggests the following techniques.

Within Departments — To summarize the desired relationship of the main instructional areas and their peripheral areas **within** a particular program area, an abstract "bubble" drawing is effective and simple to develop. Sample spatial relationship "bubble" drawings are provided for an administration suite and a science department. These examples are intended only to illustrate the technique, not to recommend or suggest the relationships contained in them.

Between Departments And Special Areas — A spatial relationship matrix is suggested for summarizing the desired relationship **between** organizational units for the entire school. It is suggested that each subcommittee be provided with a blank matrix containing the titles of all the subcommittees (or areas) on the two axes. After each subcommittee has indicated the desired relationship with each of the other subcommittees (or areas), the steering committee should combine the individual matrices into one spatial relationship matrix for the entire school.

Sample matrices are provided for an elementary school and for a high school. These are intended to illustrate only the technique and not the relationships within the matrices; the relationships will differ from school to school depending upon the differing philosophies, organizations, and teaching methodologies.





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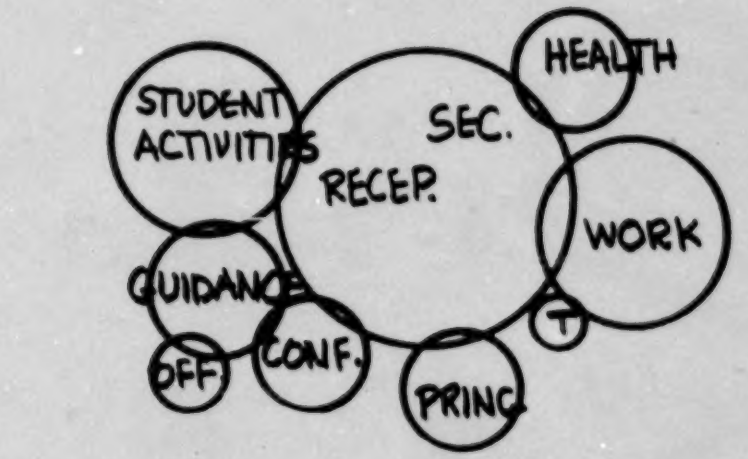
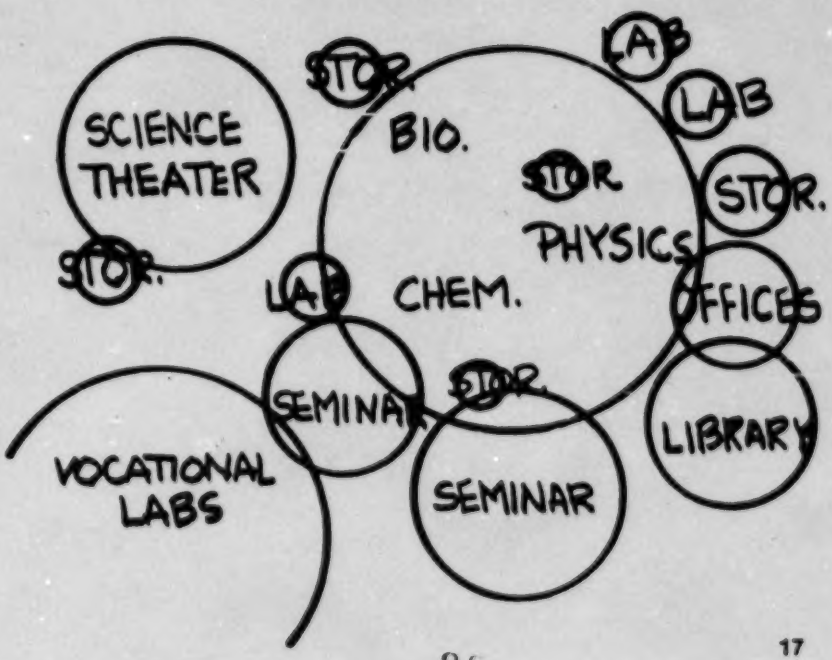
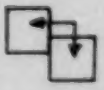




SAMPLE ELEMENTARY SCHOOL RELATIONSHIP MATRIX

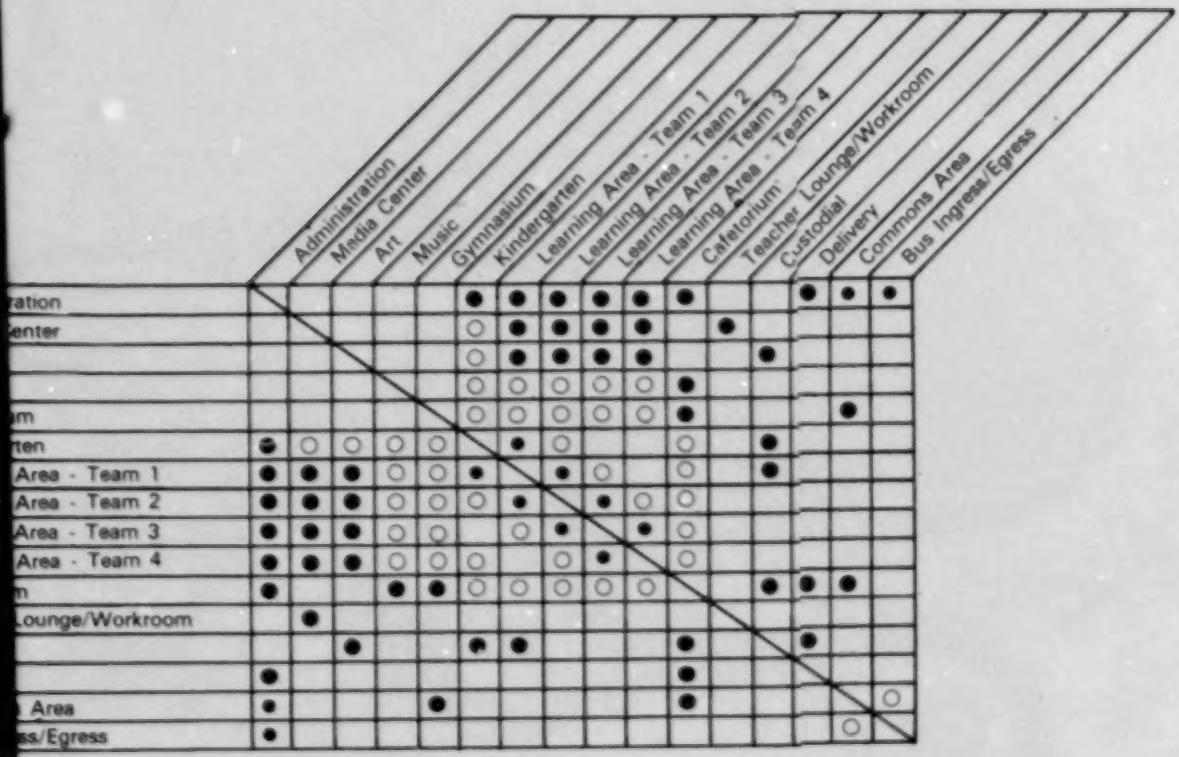
	Administration	Media Center	Art	Music	Gymnasium	Kindergarten	Learning Area - Team 1	Learning Area - Team 2	Learning Area - Team 3	Learning Area - Team 4	Cafetorium	Teacher Lounge/Workroom	Custodial	Delivery	Commons Area	Bus Ingress/Egress
Administration					●	●	●	●	●	●			●	●	●	
Media Center					○	●	●	●	●		●					
Art					○	●	●	●	●			●				
Music					○	○	○	○	○	●						
Gymnasium					○	○	○	○	○	●				●		
Kindergarten	●	○	○	○	○		●	○		○		●				
Learning Area - Team 1	●	●	●	○	○	●		●	○	○		●				
Learning Area - Team 2	●	●	●	○	○	○	●		●	○	○					
Learning Area - Team 3	●	●	●	○	○		○	●		●	○					
Learning Area - Team 4	●	●	●	○	○	○		○	●		○					
Cafetorium	●			●	●	○	○	○	○	○			●	●	●	
Teacher Lounge/Workroom		●														
Custodial			●			●	●				●			●		
Delivery	●										●					
Commons Area	●			●							●					○
Bus Ingress/Egress	●														○	

● Direct Access

○ Indirect Access 

● Convenient, but not necessarily a

SAMPLE ELEMENTARY SCHOOL RELATIONSHIP MATRIX

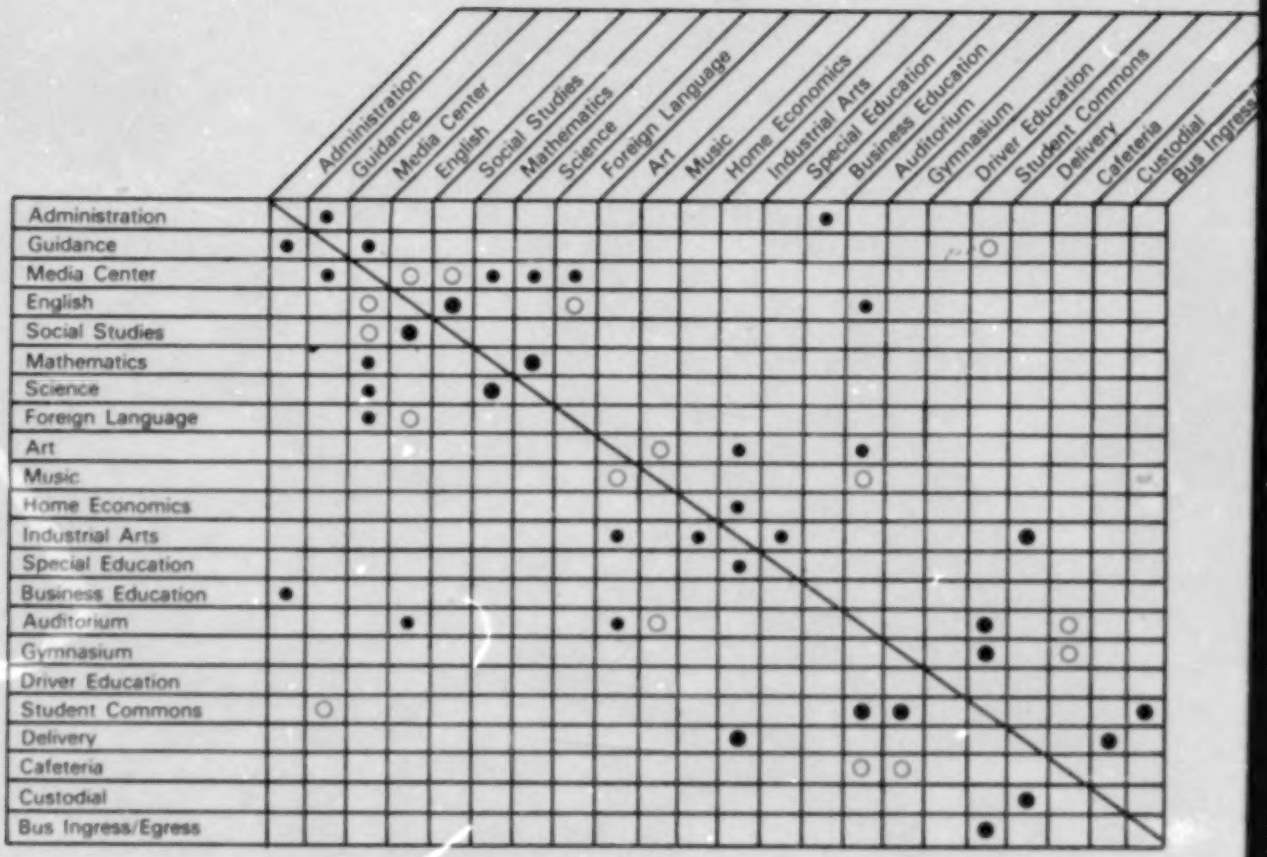


Access

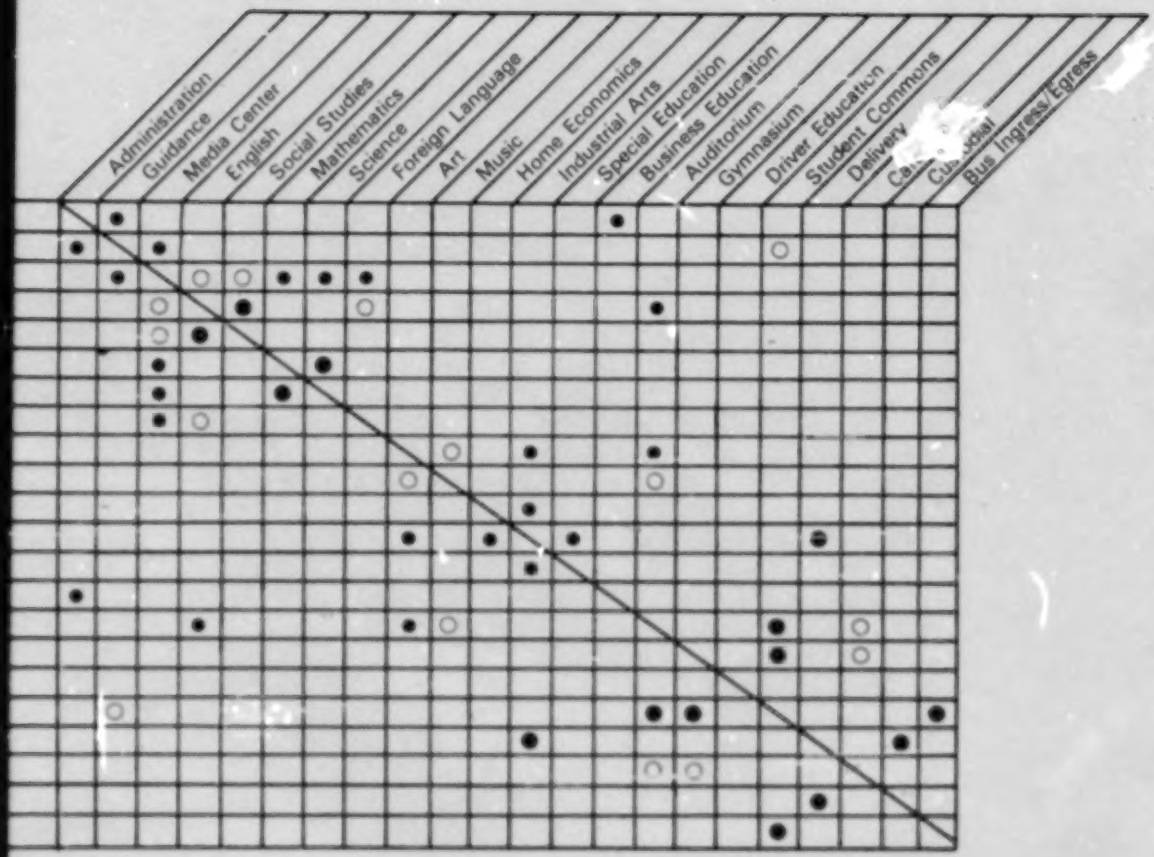
○ Indirect Access

● Convenient, but not necessarily adjacent

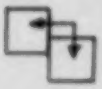
SAMPLE HIGH SCHOOL RELATIONSHIP MATRIX



SAMPLE HIGH SCHOOL RELATIONSHIP MATRIX



○ Indirect Access



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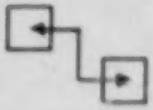

POSSIBLE ELEMENTARY SCHOOL SUBCOMMITTEE ORGANIZATIONS

Kindergarten Primary Grades Intermediate Grades Exceptional Children	OR	Learning Area I Learning Area II Learning Area III Learning Area IV	OR	Kindergarten Grade 1 Grade 2 Grade 3
Media Center				Etcetera
Administration				
Food Services				
Pupil Personnel Services				
Transportation				
Operation of Plant				
Professional Library/Lounge/Work Area/Offices				

POSSIBLE SECONDARY SCHOOL SUBCOMMITTEE ORGANIZATIONS

English Social Studies Foreign Languages	OR	Humanities		Humanities
Science		Science		Science
Mathematics		Mathematics		Mathematics
Music (Vocal & Instrumental) Art Drama	OR	Cultural Arts		Cultural Arts
Physical Education & Athletics		Physcial Education		Physical Education
Home Economics Industrial Arts Office & Business Education	OR	Practical Arts	OR	Occupational Education
Distributive Education Trade & Industrial Education Agriculture & Horticulture	OR	Vocational Arts		
Clubs & Activities		Clubs & Activities		Clubs & Activities
Media Center		Media Center	OR	Media Center
Faculty Lounge/Library Faculty Workroom/Offices	OR	Faculty Center		
Exceptional Classes		Exceptional Classes		Exceptional Classes
Health Guidance	OR	Health & Guidance		Health & Guidance
Administration		Administration	OR	Administration and Supportive Services
Food Services Transportation Operations & Maintenance	OR	Supportive Services		
26 SUBCOMMITTEES		**14 SUBCOMMITTEES**		**11 SUBCOMMITTEES**

PUBLICATIONS OF THE DIVISION OF SCHOOL PLANNING

SCHOOL PLANNING GUIDE SERIES

A Digest of Educational Planning (June, 1963)
Educational Specifications (May, 1968)
Minimum Check List for Mechanical and Electrical Plans and Specifications (Aug., 1969)
Facilities for Early Childhood Education (March, 1970)
Planning for Education: people and processes (March, 1973)
Planning for Built-Up Roofing (May, 1974)
Facilities for Occupational Education: grades 7-12 (September, 1974)

North Carolina Laws Relating to Public School Construction (1966)

Planning for Shops and Laboratories

Procedures for Review and Approval of School Building Plans and for Inspection of Building Projects by the Division of School Planning (January, 1971)

Public Schools and Highways (June, 1971)

Planning for New School Sites (November, 1971)

Schools of Interest: additions and renovations (July, 1973)

TECHNICAL SERIES

1 — *Roofing-Planning, Specifications, Construction, Problems* (September, 1969)
2 — *Specifications for Structural Concrete for Buildings* (October, 1970)
3 — *Considerations for Fire Alarm Systems, Sprinkler Systems, and Vandalism Control Systems in Public Schools* (March, 1971)
4 — *Moisture Protection* (August, 1971)
5 — *Pre-Fabricated, Pre-Engineered Rigid Frame Buildings* (April, 1972)
6 — *Pre-Coated Roofing Felts* (June, 1972)